Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

Claims 1-15 (canceled).

16. (original) A method of preparing a marker molecule, the method comprising:

(a) labeling a molecule; and

(b) ligating the molecule to a protein and/or nucleic acid of known molecular weight, wherein the molecule or protein and/or nucleic acid contains an α-thioester and the other contains a thiol-containing moiety.

17. (original) The method of claim 16, further comprising:

(c) repeating (a)-(b) one or more times to obtain a number of labeled marker molecules of different molecular weights and pIs; and

(d) combining the labeled marker molecules having different molecular weights and pIs.

18. (original) The method of claim 16, wherein said thiol-containing moiety is a 1-phenyl-2-mercaptoethyl group.

19. (original) A method of preparing a marker molecule, comprising:

(a) labeling a molecule comprising an amino-terminal cysteine residue; and

(b) ligating the molecule with a protein and/or nucleic acid of known molecular weight and comprising a C_α-thioester.

20. (original) The method of claim 19, further comprising:

(c) repeating (a)-(b) one or more times to obtain a number of labeled marker molecules of different molecular weights and pIs; and

(d) combining the labeled marker molecules having different molecular weights and pIs.

Claims 21-38 (canceled).

39. (previously presented) The method of claim 16 or 19, wherein said protein and/or nucleic acid is a protein.

40. (previously presented) The method of claim 16 or 19, wherein said molecule is a peptide.

41. (previously presented) The method of claim 16 or 19, wherein the peptide is labeled at lysine residues.

42. (currently amended) The method of claim 40 ~~16 or 19~~, wherein the peptide is about 10 to about 100 amino acids in length.

43. (currently amended) The method of claim 39 ~~16 or 19~~, wherein the protein has a molecular weight of between 3,000 daltons and 250,000 daltons.

44. (previously presented) The method of claim 16 or 19, wherein the molecule is a nucleic acid.

45. (previously presented) The method of claim 16 or 19, wherein the labeled marker molecules have the same molecular weight and different pIs.

46. (previously presented) The method of claim 16 or 19, wherein the labeled marker molecules have the same pI but different molecular weights.

47. (previously presented) The method of claim 16 or 19, wherein each labeled marker molecule is labeled with a different label.

48. (previously presented) The method of claim 16 or 19, wherein each labeled marker molecule is labeled with the same label.

49. (new) The method of preparing a marker molecule according to claim 16 or 19, wherein said marker molecule comprises

(i) a peptide having SEQ ID NO: 3 and having its lysine's epsilon nitrogens attached to TMR; and

(ii) MBP-95aa; and

wherein the amino-terminal cysteine of the peptide having SEQ ID NO: 3 is ligated in a peptide linkage to the carboxy-terminus of MBP-95aa.